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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/775,564	02/10/2004	A. Lew Wingert	BOEI-1-1207	1436

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EXAMINER

THOMAS, ALEXANDER S

ART UNIT PAPER NUMBER

1772

DATE MAILED: 07/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/775,564	Applicant(s) WINGERT ET AL.	
	Examiner Alexander Thomas	Art Unit 1772	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 July 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 4-55,69,70 and 72 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 4-55,69,70 and 72 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 7/6/06 has been entered.

Claim Objections

2. Claims 11 and 23 are objected to because of the following informalities: in claim 11, the term "claim 1" needs to be deleted; and in claim 23, the term "sot-gel" is misspelled. Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 4-8, 13, 14, 16-18, 20, 26, 28-30, 36, 39,40, 45-47, 50,51, 69 and 71 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vogelsang et al ('323) in

Art Unit: 1772

view of the Magellan Systems Int. publication describing M5 fibers. The primary reference discloses the invention substantially as claimed, namely a fiber-metal laminate comprising at least two metal layers and at least one fiber layer disposed between the metal layers wherein the fiber layer contains a resin matrix and has a modulus of elasticity within the instantly claimed range; see claim 1, the Abstract and column 4, lines 59-62. However it does not teach the use of PIPD fibers in the laminate as the high modulus fibers. The secondary reference discloses that M5 fibers (disclosed by applicant on page 5 of the instant specification as being PIPD fibers) were well-known high modulus fibers for use in structural composites as of December 2002; see pages 1 and 2 of the publication. It would have been obvious to one of ordinary skill in the art to use any well-known high modulus fiber, such as PIPD fibers (M5 fibers), as the high modulus fibers in the article of the primary reference in view of the teaching in the secondary reference of the use of PIPD fibers (M5 fibers) in composites. Concerning the term "pre-treated" that has been incorporated into claims 4, 28, 45 and 69, this term is a process limitation that does not add any specific structural features to the claimed product.

5. Claims 21-25, 41, 42 and 72 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vogelsang et al ('323) in view of the Magellan Systems Int. publication describing M5 fibers as applied to claims 4-8, 13, 14, 16-18, 20, 26, 28-30, 36, 39, 40, 45-47, 50, 51, 69, 70 and 71 above, and further in view of Blohowiak et al ('578). Blohowiak et al disclose the use of a sol-gel coating on metal to improve

Art Unit: 1772

bonding between the metal and a resin adhesive; see the Abstract. It would have been obvious to one of ordinary skill in the art to use a sol-gel coating on the metal layers in the article of Vogelsang et al in view of the teachings in the secondary reference to improve interlaminar bonding in the article.

6. Claims 9-12, 15, 19, 27, 31-35, 37, 38, 43, 44, 48, 49 and 52-55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vogelsang et al ('323) in view of the Magellan Systems Int. publication describing M5 fibers as applied to claims 4-8, 13, 14, 16-18, 20, 26, 28-30, 36, 39,40, 45-47, 50,51, 69, 70 and 71 above, and further in view of Westre et al ('050). Westre et al disclose a metal-fiber laminate wherein the fibers may be oriented in more than one direction, multiple fiber and steel layers may be used and a honeycomb core may be employed. It would have been obvious to one of ordinary skill in the art to use the structures taught in the secondary reference in the article of Vogelsang et al depending on the desired structural properties for a particular end use.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander Thomas whose telephone number is 571-272-1502. The examiner can normally be reached on 6:30-4:00 M-THUR.

Art Unit: 1772

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon can be reached on 571-272-1498. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A handwritten signature in black ink, appearing to read "Alexander S. Thomas".

ALEXANDER S. THOMAS
PRIMARY EXAMINER